

Claims

1. Process for early detection of reactor fouling occurring during a gas phase polymerisation of olefin(s) using a fluidized bed reactor comprising a fluidization grid, characterised in that the upper part of the fluidization grid is fitted with devices capable of detecting the polymer agglomerates hitting said devices. ①
5. 2. Process according to claim 1 wherein the devices comprise detection switches which protrude through the grid and which gives an indicative signal of the presence of agglomerates on the grid. 2/1
3. Process according to any of the preceding claims wherein the devices comprise an automatic reset system in order to allow a device to give a further signal in case of another encounter with an agglomerate hitting said device. 3/1-2
10. 4. Process according to any of the preceding claims wherein the devices are of a mechanical, electrical, electromechanical or pneumatic type, or a combination of one or more of the said types. 4/1-3
- MD 5. Process according to claim 4 wherein the devices are electromechanical. 5/4
15. 6. Process according to any of the preceding claims wherein the fluidized bed reactor is cylindrical and comprises a fluidization grid which is a disc having a diameter comprised between 2 and 7 m. 6/1-5
- MD 7. Process according to any of the preceding claims wherein the fluidization grid is fitted with at least 4 devices capable of detecting the polymer agglomerates. 7/1-6
20. 8. Apparatus for the gas phase polymerisation of olefins including:
 - (i) a fluidized bed reactor (1) fitted with a top (2) and a base comprising a fluidization grid (4), and consisting of a cylinder with a vertical side wall and a

disengagement or desurging chamber (3) above said cylinder, the top of the chamber (3)
forming the top (2) of the reactor,

- 5 (ii) an entry chamber (9) for a reaction gas mixture, situated under the grid (4) and
communicating with the reactor (1) through the intermediacy of the grid (4),
and

- (iii) an external circulation conduit (5) for the reaction gas mixture, connecting the
top (2) of the reactor to the entry chamber (9) for the reaction gas mixture and
including a compressor (8) and at least one heat exchanger (6, 7),

characterised in that the upper part of the fluidization grid is fitted with detection devices
10 protruding through the fluidization grid and capable of detecting the polymer
agglomerates hitting said devices.

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